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EXAMINER	
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ART UNIT	**PAPER NUMBER**
3746	

MAIL DATE	DELIVERY MODE
07/09/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/518,643	AKASHI ET AL.	
	Examiner	Art Unit	
	ALEXANDER B. COMLEY	3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 April 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11 and 13-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11 and 13-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 April 2008* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Status of the Claims

1. The Examiner acknowledges receipt of response and amendments filed with the Office on April 24th, 2008. In response to non-final rejection mailed by the Office on January 29th, 2008, Applicant has chosen to amend only Claims 1 and 16 while leaving Claims 2-11, 13-15 & 17 in their originally presented form. Claim 12 remains cancelled. Applicant's amendments and arguments have been carefully and fully considered by the Examiner, and will be addressed below.

Drawings

2. The Examiner acknowledges receipt of corrected drawing (Figure 11) and additional corrected drawing (Figure 8) filed with the Office on April 24th, 2008. Furthermore, the Examiner accepts these corrections, and consequently, the drawing objection has been withdrawn.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. **Claims 1-11 ,13, & 17** are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent to Ashenfelter (4,576,555) directed to an Oil Dispersing Device in view of United States Patent to Fritchman (5,118,263) directed to a Hermetic Refrigeration Compressor, and in further view of United States Patent to Mangyo (5,252,039) directed to an Enclosed Motor-Driven Compressor.

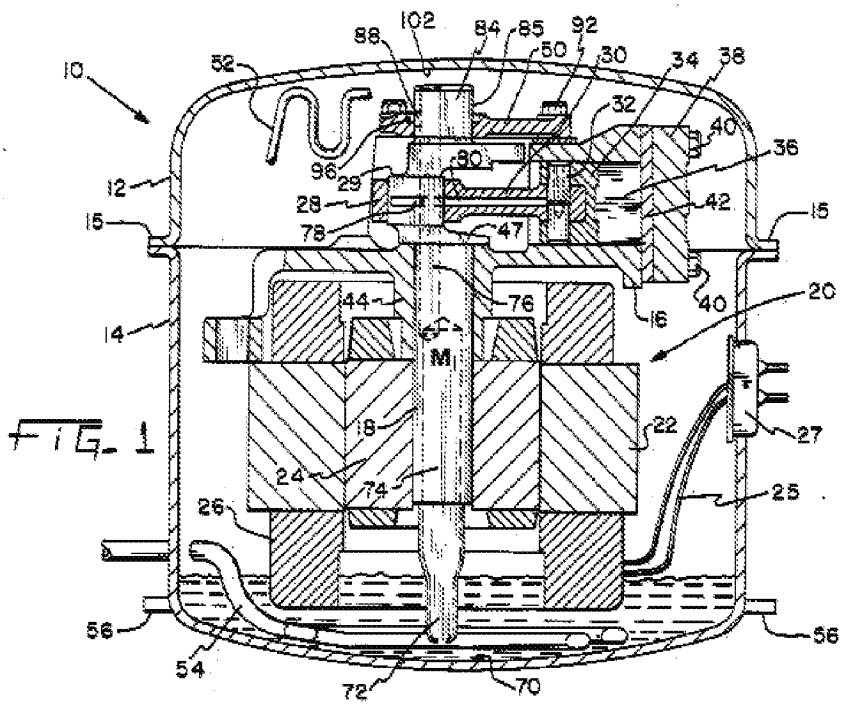


FIG. 1

Regarding **Claim 1**, and in reference to Figure 1 shown immediately above, Ashenfelter (4,576,555) discloses:

> A hermetic compressor (Fig. 1) having a sealed housing (10) storing therein lubricating oil and receiving therein a motor element (20) and a compression element (32, 34, 36) driven by said motor element (20), said compression element (32, 34, 36) comprising a shaft (18) having an eccentric shaft portion (29), and an auxiliary shaft portion (84) and a main shaft portion (M) coaxially provided on upper and lower sides of said eccentric shaft portion (29) so as to sandwich it therebetween, a cylinder block (36) provided with a compression chamber of a substantially cylindrical shape, a main bearing (44) fixed to or formed integral with said cylinder block (36) so as to be substantially perpendicular to an axis of said compression chamber and supporting an upper half portion of said main shaft portion (M) of said shaft (18), an auxiliary bearing (50) fixed to or formed integral with said cylinder block (36) and supporting said auxiliary shaft portion (84), a piston (34) that performs reciprocating motion in said compression chamber, and connecting means (30) for coupling said piston (34) and said eccentric shaft (29) together, wherein said shaft (18) is provided with an oil feed mechanism (74) having a lower end communicating with said lubricating oil and an upper end penetratingly open to an upper end portion of said auxiliary shaft portion (84)

As seen in Figure 1 above, Ashenfelter clearly discloses a hermetic compressor comprised of a sealed housing, crankshaft, motor, piston, and bearings. In particular,

Ashenfelter discloses "Referring now to the drawings and particularly to FIG. 1 a compressor is shown including a shell or housing 10 with an upper housing portion 12 and a lower housing portion 14. The upper and lower housing portions are sealingly secured together at seam 15 such as by welding or brazing. Mounted within the compressor housing 10 is a crankcase 16 having a crankshaft 18 rotatably received therein. A motor 20 comprising a stator 22 and a rotor 24 secured to crankshaft 18 provides the driving force for rotating crankshaft 18." (Column 5, Lines 10-19) Furthermore, Ashenfelter discloses the use of oil feed mechanism by stating "Disposed in lower portion 14 of the housing 10, along with refrigerant oil cooler tube 54, is an oil pump 72 comprising a hollow tube connected to the bottom end portion of crankshaft 18. Hollow tube oil pumps are conventional and well known in the prior art. In general tube 72 is press fit into a bore 74 of crankshaft 18. Oil pump 72 extends into oil sump 70 containing oil as illustrated. Oil pump tube 72 pumps oil upwardly from sump 70 as the crankshaft rotates and pumps the oil upwardly into axial bore 74 in crankshaft 18. Crankshaft 18 also includes oil passage 76 which extends upwardly from bore 74 and which traverses the entire length of upper portion 84 of crankshaft 18." (Column 5, Lines 56-69) However, although many of the basic structural features of applicant's invention are disclosed by this prior art, Ashenfelter fails to specifically disclose an oil fence provided on the bearing or an oil feed passage for supplying lubricant to the piston.

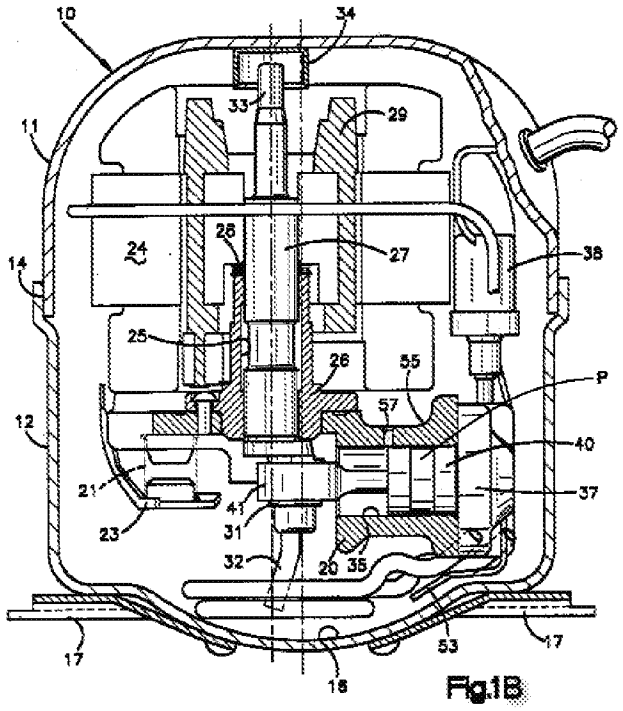


Fig.1B

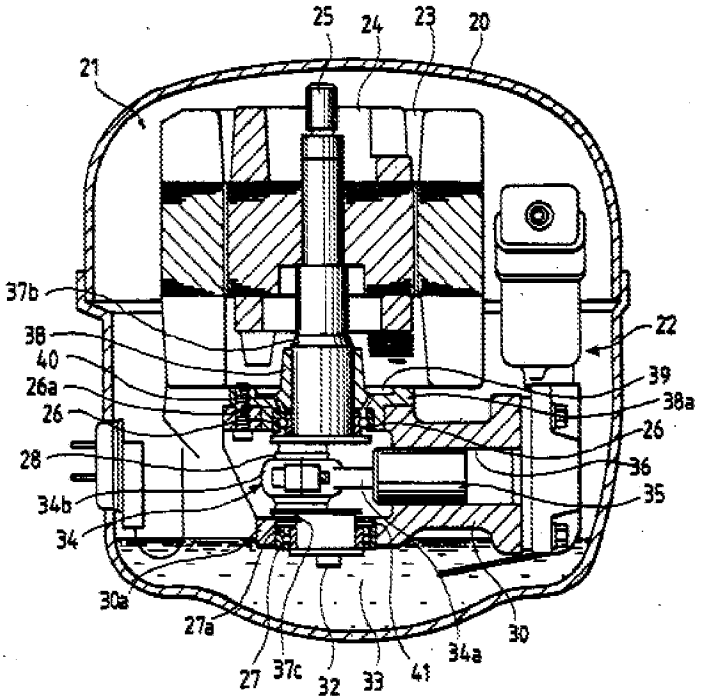
However, as shown in Figure 1B immediately above, Fritchman (5,118,263) discloses a portion of the remaining elements present in Independent Claim 1. In particular, Fritchman discloses:

An oil feed passage (57) for conducting the lubricating oil to a sliding surface of said piston.

Fritchman discloses an oil feed passage provided for supplying lubricant to the piston by disclosing "In accordance with the present invention, advantage is taken of the fact that there is a certain amount of oil flowing from the upper end of the bearing boss. Accordingly, an oil supply recess 55 is located on the cylinder block 20 directly above the cylinder bore 35, and a certain amount of oil from the bearing boss will flow downward off the motor stator 24 into the oil recess 55, where it normally tends to accumulate. An oil feed hole 57 is provided in the form of a small vertical bore extending

through the cylinder block 20 from the oil supply recess 55 into the cylinder bore 35 adjacent its midpoint." (Column 6, Lines 35-46) However, Fritchman fails to specifically disclose the final remaining element present in Independent Claim 1; that element being an oil fence provided with the auxiliary bearing.

FIG. 3



However, as shown in Figure 3 immediately above, Mangyo (5,252,039) discloses the final remaining element present in Independent Claim 1. In particular, Mangyo discloses:

> Said auxiliary bearing is provided with an oil fence (38a) for receiving the lubricating oil spouting out from the upper end portion of said oil feed mechanism; said oil fence (38a) including a vertical wall which intersects with an

extension of the direction of radially scattering of the lubricating oil due to a centrifugal force from said oil feed mechanism.

As can be seen in Figure 3 immediately above, Mangyo specifically discloses the use of a vertically-extending annular oil fence 38a provided on the crankshaft bearing for the purpose of retaining as much of the radially slung bearing lubricant as possible. In particular, Mangyo discloses "A housing 38 in which the first ball bearing 26 is received has an oil sump 39 formed in an upper surface of an annular flange 38a of the housing 38, and at least one small oil feed passage 40 (two in the illustrated embodiment) communicating the oil sump 39 with running tracks 26a of the first ball bearing 26 on and along which balls of the ball bearing 26 roll." (Column 5, Lines 29-35) It is clear from Figure 3 above that the annular flange 38a extends upwardly and acts as a vertical wall to retain and catch the oil discharging radially outward from the rotating shaft. Consequently, it is clear that this flange/fence intersects with the radially scattered oil when it retains a portion of it within the adjacent sump. Furthermore, Mangyo specifically discloses the use of centrifugal force to force the oil through the pump by stating "With this arrangement, when the motor element 21 is driven to operate the compressor, the rotor 24 and the crankshaft 25 rotate. The corrugated spring washer 41 disposed between the second ball bearing 27 and the cylinder block 30 serves to eliminate the influence of the weight of the rotor 24 and the crankshaft 25 on the ball bearings 26, 27. The lubricating oil 33 is sucked by a centrifugal force from the oil feed pipe 32, then flows upward along the axial groove (see FIG. 2) in the crankshaft 25, and finally supplied from the first and second outlets 37b, 37c onto the first and

second ball bearings 26 and 27." (Column 5, Lines 48-59) Therefore, to one of ordinary skill in the art desiring more efficiently lubricated piston and bearing setups that coincide with oil distribution passages within a crankshaft, it would have been obvious to utilize the techniques disclosed in Fritchman and Mangyo in combination with the basic compressor structure of Ashenfelter in order to obtain these results. Consequently, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the basic compressor structure of Ashenfelter with the oil feed hole and oil fence of Fritchman and Mangyo, respectively, in order to obtain predictable results; those results being a compressor that more efficiently and reliably lubricates its vital moving parts (bearings, motors, pistons, etc).

6. **Regarding Claims 2, 4 & 10,** and with particular reference to Figures 1, 1B, & 3 shown previously above, the Mangyo portion of the combination discloses the use of an oil pool/bath above a bearing for the purposes of storing and supplying lubricant for the bearing below, as well as an annular flange (i.e. oil fence) provided on the upper surface of the bearing. In particular, Mangyo discloses "A housing 38 in which the first ball bearing 26 is received has an oil sump 39 formed in an upper surface of an annular flange 38a of the housing 38, and at least one small oil feed passage 40 (two in the illustrated embodiment) communicating the oil sump 39 with running tracks 26a of the first ball bearing 26 on and along which balls of the ball bearing 26 roll." (Column 5, Lines 29-35) In regards to **Claims 3 & 17**, the Ashenfelter portion of the combination specifically discloses the use of an oil dispersion hole above the auxiliary bearing and

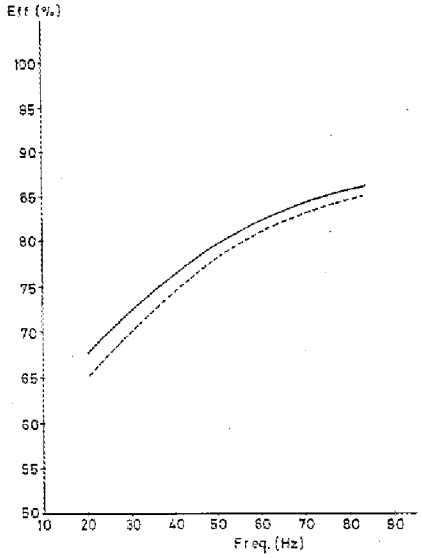
communicating with the central oil feed mechanism. In particular, Ashenfelter discloses "A portion of the oil will be slung outwardly through radial oil passage 88 into annulus 98. Oil will collect in corner 100 of annulus 98 and will pool therein as indicated by shaded portion 99. Additional oil passing outward of passage 88 will be deflected upwardly from the surface of oil trapped in corner 100 and will then pass upwardly over shock loop 52 directly onto wall 102 of upper housing 12 as indicated by arrow 104. It can therefore be seen that the combination of the annulus 98 formed by counterbore 96 and outer surface 85 of crankshaft 18 will form a step portion for trapping oil 99 to aid in deflecting oil passing outwardly of passage 88 in crankshaft 18." (Column 6, Line 61 – Column 7, Line 7) Regarding **Claims 5, 8, & 13**, the Fritchman portion of the combination discloses the use of an opening connected to a cylinder communicating hole 57 located above the cylinder block, as well as an upwardly projecting oil fence provided in the surface of the cylinder block. In particular, Fritchman discloses "An oil feed hole 57 is provided in the form of a small vertical bore extending through the cylinder block 20 from the oil supply recess 55 into the cylinder bore 35 adjacent its midpoint." (Column 6, Lines 42-46) In regards to **Claim 6**, the Fritchman portion of the combination shows an oil guide portion 26 designed to guide oil from the motor immediately above down to the opening portion below. In particular, Fritchman discloses "Generally, in a motor up configuration, as described in the invention, excess oil is allowed to exit from the upper end of the bearing boss where it lubricates the vertical thrust bearing as well as cooling the motor before draining back into the reservoir." (Column 1, Lines 53-58). Regarding **Claim 7**, a similarly structured piston

pin is disclosed in the Fritchman portion of the combination. In particular, Fritchman discloses "As shown at FIGS. 2 and 3, it can be seen that the oil groove 59 and the oil feed hole 57 are so positioned that at bottom dead center of the piston, as shown in FIG. 3, the head land 64, depending on the length of the piston stroke, may partly, but never completely, block the oil hole 57, so that substantially all of the area of the head land 64 is available to provide a sealing fit with the cylinder bore 35 as the piston begins it compression stroke." (Column 6, Lines 59-69) In regards to **Claim 9**, the Fritchman portion of the combination also discloses the use of an annular oil feed groove in the piston by disclosing, "A supply passage extends downward from said recess and opens into the cylinder bore near its midpoint. The piston has an elongated shallow groove on the interior between head and skirt lands which is connected to the passage during a major portion of the piston stroke to receive oil from the recess." (Abstract) In regards to **Claim 11**, Mangyo discloses oil feed holes projecting from the crankshaft for the purpose of supplying lubricating oil to various portions of the compressor. In particular, Mangyo discloses "The lubricating oil 33 is pumped up by a centrifugal force from the oil feed pipe 32, then flows upward along the axial groove 37 (FIG. 2) in the crankshaft 25, and finally supplied from the first and second outlets 37b, 37c onto the first and second ball bearings 26 and 27." (Column 4, Lines 58-63)

Therefore, to one of ordinary skill in the art desiring a compressor with longer-lasting bearings and pistons, it would have been obvious to utilize the techniques disclosed in Fritchman & Mangyo in combination with the basic physical structure of the Ashenfelter in order to obtain such results. Consequently, to one of ordinary skill in the

art at the time of the invention, it would have been obvious to modify the basic structure of the Ashenfelter with the oil pool/bath, oil fence, and oil feed groove in order to obtain predictable results; those results being more efficiently lubricated bearings and pistons that have extended life spans and quieter operation.

F I G. 13



7. **Claims 14 & 15** are rejected under 35 U.S.C. 103(a) as being unpatentable over the Ashenfelter-Fritchman-Mangyo combination as applied to Claims 1-11 & 13 above, and further in view of United States Patent to Hayashi (5,506,486) directed to a Control Apparatus for Compressor with Induction Motor. In reference to Figure 13 shown immediately above, and regarding **Claims 14 & 15**, the Hayashi portion of the combination specifically shows the use of a plurality of operating frequencies for a hermetic compressor driven by an induction motor. In particular, Figure 13 contains a solid line depicting the relationship between a range of operating frequencies and corresponding operating efficiency of the compressor, which clearly includes at least an operating frequency of less than the power source frequency and at least an operating

frequency of less than 30 Hz. Therefore, to one of ordinary skill in the art desiring a compressor that reduces the overall power consumption of the motor, it would have been obvious to utilize the control techniques disclosed in Hayashi in combination with the Ashenfelter-Fritchman-Mangyo combination in order to obtain this result. Consequently, it would have been obvious to one having ordinary skill in the art at the time of the invention to modify the compressor of the Ashenfelter-Fritchman-Mangyo combination with the inverter of Hayashi in order to reduce electric power consumption.

8. **Claim 16** is rejected under 35 U.S.C. 103(a) as being unpatentable over Ashenfelter (5,205,723) in view of Fritchman (5,118,263). As similarly described in the analysis of Claim 1, Ashenfelter discloses:

> A hermetic compressor (Fig. 1) having a sealed housing (21) storing therein lubricating oil and receiving therein a motor element (22) and a compression element (31) driven by said motor element (22), said compression element (23) comprising a shaft (26) having an eccentric shaft portion (29), and an auxiliary shaft portion (28) and a main shaft portion (27) coaxially provided on upper and lower sides of said eccentric shaft portion (29) so as to sandwich it therebetween, a cylinder block (32) provided with a compression chamber of a substantially cylindrical shape, a main bearing (33) fixed to or formed integral with said cylinder block so as to be substantially perpendicular to an axis of said compression chamber and supporting an upper half portion of said main shaft (27) portion of said shaft (26), an auxiliary bearing (38) fixed to or formed integral

with said cylinder block and supporting said auxiliary shaft portion (28), a piston (31) that performs reciprocating motion in said compression chamber, and connecting means (30) for coupling said piston (31) and said eccentric shaft (29) together. Wherein said shaft is provided with an oil feed mechanism having a lower end communicating with said lubricating oil and an upper end penetratingly open to an upper end portion of said auxiliary shaft portion.

However, as previously stated in the analysis for Claim 1, Ashenfelter fails to specifically disclose an oil fence provided on the bearing or an oil feed passage for supplying lubricant to the piston.

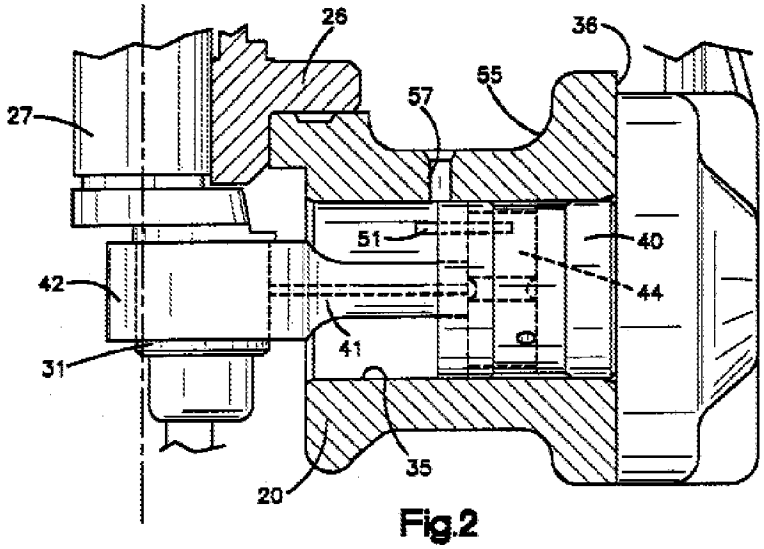


Fig.2

However, in contrast to the analysis seen for Claim 1, and as can be seen in Figure 2 shown immediately above, the Fritchman portion of the combination teaches all of the remaining elements present in Independent Claim 16. In particular, Fritchman discloses:

Said cylinder block is provided with an oil fence (55) for receiving the lubricating oil spouting out from the upper end portion of said oil feed mechanism and an oil feed passage (57) for conducting the lubricating oil to a sliding surface of said piston (40); said oil fence (55) including a vertical wall which intersects with an extension of the direction of radially scattering of the lubricating oil due to a centrifugal force from said oil feed mechanism.

Please refer to the analysis described in Claim 1 for a detailed analysis of the majority of the rejections made for Clam 16 as the only difference between Claim 1 and 16 is the placement of applicant's oil fence structure. Fritchman specifically discloses the use of a vertically extending oil fence placed on the cylinder block of the compressor by stating "In accordance with the present invention, advantage is taken of the fact that there is a certain amount of oil flowing from the upper end of the bearing boss. Accordingly, an oil supply recess 55 is located on the cylinder block 20 directly above the cylinder bore 35, and a certain amount of oil from the bearing boss will flow downward off the motor stator 24 into the oil recess 55, where it normally tends to accumulate. An oil feed hole 57 is provided in the form of a small vertical bore extending through the cylinder block 20 from the oil supply recess 55 into the cylinder bore 35 adjacent its midpoint." (Column 6, Lines 35-46) Furthermore, the Ashenfelter portion of the combination specifically discloses the use of centrifugal force to force oil through the pump and sling it outwardly from the inner vertical oil passage within the shaft. In particular, Ashenfelter discloses "In operation, as illustrated in FIG. 3, oil will travel upwardly through oil passage 76 in upper portion 84 of crankshaft 18. A portion of the

oil will be slung outwardly through radial oil passage 88 into annulus 98. Oil will collect in corner 100 of annulus 98 and will pool therein as indicated by shaded portion 99." (Column 6, Lines 61-66) The combination of the oil slinging mechanism of Ashenfelter and the cylinder block oil fence of Fritchman would provide the same function and structure as that claimed by Applicant. Therefore, to one of ordinary skill in the art desiring a more efficiently lubricated hermetic compressor through use of an oil fence and corresponding piston oil passage, it would have been obvious to utilize the techniques disclosed in Fritchman with the basic structure of Ashenfelter in order to obtain this result. Consequently, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the basic compressor structure of Ashenfelter with the oil feed passage and vertical oil fence of Fritchman in order to obtain predictable results; those results being a hermetic compressor that more efficiently lubricates its vital moving parts (bearings, motors, pistons, etc).

Response to Arguments

9. Applicant's arguments filed on April 24th, 2008 have been fully considered but they are not persuasive. Examiner's responses can be seen below.

10. In regards to Applicant's argument that the Mangyo portion of the combination fails to teach an oil sump provided to a ball bearing, the Examiner respectfully disagrees. The oil sump of 39 is structured to be directly above one of the supporting

ball bearings, and supplies oil thereto through use of an oil feed passage 40 (See Column 5, Line 29 - Column 6, Line 9)

11. In regards to Applicant's argument that the Mangyo portion of the combination does not distribute oil radially through use of centrifugal force, the Examiner respectfully disagrees. Mangyo specifically discloses that centrifugal force produced by the rotating shaft draws lubricating oil up through the central oil passage and out of the oil outlet 37b (See Column 5, Line 29 – Column 6, Line 9)

12. In regards to Applicant's argument that the Mangyo portion of the combination fails to teach a vertically extending wall that intersects the radially slung oil path, the Examiner respectfully disagrees. The annular flange 38a of Mangyo can be seen extending vertically upward in Figure 3, and consequently, is structured in the same way as Applicant's vertical wall. Furthermore, it is clear that the flange 38a catches a portion of the radially slung oil from the outlet 37b due to the fact that some of the oil is retained in the oil sump 39. Therefore, it is clear that Mangyo's annular flange 38a acts as a vertical wall intersecting the radially slung oil path.

Conclusion

1. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALEXANDER B. COMLEY whose telephone number is (571)270-3772. The examiner can normally be reached on M-F 7:30am - 5:00am EST (Alternate Fridays Off). If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon C. Kramer can be reached on (571)-272-7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Alexander B Comley/
Examiner, Art Unit 3746

/Charles G Freay/
Primary Examiner, Art Unit 3746

ABC